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10/520,183

08/31/2005

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EXAMINER

ROCCA, JOSEPH M

ART UNIT

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3616

MAIL DATE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/520,183	Applicant(s) DECKER ET AL.	
	Examiner Joseph Rocca	Art Unit 3616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-31, 37 and 38 is/are pending in the application.
- 4a) Of the above claim(s) 32-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-31, 37 and 38 is/are rejected.
- 7) ☒ Claim(s) 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/5/05 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :8/31/05 (improper form), 1/5/05, 10/16/07.

DETAILED ACTION

Election / Restriction

1. Applicant's election without traverse of claims 19-31, 37, and 38, drawn to Species 1, shown in Figures 1a-1c in the reply filed on 6/2/08 is acknowledged.

Information Disclosure Statement

2. The information disclosure statement filed 8/31/05 fails to comply with 37 CFR 1.98(a)(1), which requires the following: (1) a list of all patents, publications, applications, or other information submitted for consideration by the Office; (2) U.S. patents and U.S. patent application publications listed in a section separately from citations of other documents; (3) the application number of the application in which the information disclosure statement is being submitted on each page of the list; (4) a column that provides a blank space next to each document to be considered, for the examiner's initials; and (5) a heading that clearly indicates that the list is an information disclosure statement. The information disclosure statement has been placed in the application file, but the information referred to therein has not been considered.
3. The information disclosure statements (IDS) submitted on 1/5/05 and 10/16/07 have been considered by the examiner.

Drawings

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the means to initiate a transition from one level to a further level, when the engine impinges upon a structure

defining the engine compartment / “rear bulk” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to under 37 CFR 1.83(a) because they fail to show the point of contact between the engine and rear bulk as well as the necessary sensor detail required to make the device operate, as described in the specification. Similarly, the applicant should include information to show how the device is attached to the vehicle frame, engine, and other structure, as described in the specification (the above features should be added and indicated in the specification / description of the drawings

as being schematically shown, so as to avoid the introduction of new matter). Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

6. The drawings are objected to because each drawing is not specifically described in the specification, each figure must individually be described (meaning that figures 1a-1c and figures 2a-2c, must each be described separately). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should

include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

7. The disclosure is objected to because of the following informalities: in the specification the applicant refers to the term “rear bulk,” the term “rear bulk” is not one known / ordinarily used in the art. Applicant suggests changing this to read “rear bulk head,” as this is the component the examiner assumes is being referred to.

Appropriate correction is required.

Claim Objections

8. Claim 21 is objected to because of the following informalities: the applicant refers to the term “rear bulk,” the term “rear bulk” is not one known / ordinarily used in the art. Applicant suggests changing this to read “rear bulk head,” as this is the

component the examiner assumes is being referred to. Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 19-31, 37, and 38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In the claims the applicant uses the word "level" to define the amount of force being resisted by the "force transition element," based on the position of the engine. Use of the word level is vague and indefinite and also renders it very difficult for someone to tell whether or not they are infringing the claims based on the fact that the word level is typically held to refer to the height of something (i.e., a measurement of the difference of altitude of two points by means of a level, meaning an approximately horizontal line or surface taken as an index of altitude). When applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). Here, the written description does not adequately redefine the claim term and set forth the uncommon definition so as to put

one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. Appropriate correction is required.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 19-21, 23, 25-31, and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Chou et al. (U.S. 6,029,765). Chou discloses a force-transmission element for an engine compartment (element 14) having an engine (element 18) which is displaced in the engine compartment (element 14) when the severity of an impact exceeds a certain limit, the element being incorporated into a force path introduced into the engine compartment by the impact and having at least two different levels, (Figs. 2-6, wherein the different levels are a first level wherein the rod (element 56) is located between first end (element 44) and protuberances (elements 70 and 72) and another level, which occurs after the impact force allows the rod (element 56) to deform protuberances (elements 70 and 72) and slide relative to the structural member (see, Col. 3, Lines 30-41), wherein means which initiate a transition from one level to a further level according to a position of the engine in the engine compartment are provided (wherein said means include the impact force which causes the position of the engine to change due to the movement it causes to the engine (element 18) which is transferred

via the brackets (elements 20) and the rods (elements 56) to the force-transmission element).

Regarding claim 20, Chou further discloses that the means initiate the transition when the engine impinges upon a structure defining the engine compartment, in as much as the engine / rod would move towards and deform the protuberances (elements 70 and 72) in traveling rearward beyond their usual position, because impact forces would cause the engine (element 18) to begin encroaching on the protuberances and rear of the engine compartment (see Fig. 1), meaning that the engine is caused to advance passed its usual limit due to the impact forces, wherein the advancing begins with the initial pressure against the protuberances, which is considered to be one level and then continues until the protuberances deform and permit said transition to another "level." Moreover, the applicant should note that second end of the slot (element 46) may be considered to be yet another level, to the extent that the this term ("level") is understood and may be broadly and reasonably defined, since the force required is again changed when this point in the slot is reached.

With respect to claim 21, Chou further discloses that the means initiate the transition when the engine impinges upon an engine compartment rear bulk, in as much as the rearward motion would cause the engine to encroach (advance beyond its normal limits) into the back of the engine compartment in the region of the rear bulk by defoming protuberances (elements 70 and 72) due to the impact force. Moreover, the applicant should note that second end of the slot (element 46) may be considered to be yet another level, to the extent that the this term ("level") is understood and may be

broadly and reasonably defined, since the force required is again changed when this point in the slot is reached.

Regarding claim 23 and 38, Chou further discloses that the means initiate the transition through material failure, wherein the material failure is the deformation of the protuberances (elements 70 and 72; See col. 3, Lines 37-40).

With respect to claim 25, Chou further discloses that the element comprises two impact plates spaced at an interval from one another (elements 22 and 40). Applicant should note that according to figure 1, and the specification of Chou, this structure is located on both sides of the engine.

Regarding claim 26, Chou, further discloses that the element further comprises bars arranged between the impact plates (element 60), wherein as broadly and reasonably defined a bar exists on at least the each side of the mount as rod (element 56) is on both sides. Thus, at a minimum more than one bar is disclosed as part of the invention (the force transmission element), hence the bars limitation is met.

With respect to claim 27, Chou further discloses that the bars (elements 56) are arranged at a specific angle to the impact plates (elements 22 and 40), wherein the specific angle is that shown in figure 2 of Chou, which appears to be substantially a right angle with respect to the plates.

Regarding claim 28, Chou further discloses that the impact plates are fitted in mountings, wherein with respect to plate element 40, the mounting is element 52, and with respect to element 22, the mounting portion may be considered either or both the portion connecting element 22 to the rest of the vehicle and/or element 60, which

connects element 22 to element 64, which may be broadly and reasonably interpreted as a mounting means for mounting element 22 on element 64.

With respect to claim 29, Chou further discloses that one of the two impact plates is of a two-part construction, both in the fact that they are in two part construction by virtue of being formed individually on either side of the engine as well as being formed in two-parts by interpreting elastomeric pad element 52 as part of element 40. Applicant should note that element 29 does not require the mounting limitation of claim 28.

Regarding claim 30, Chou further discloses that the two-part construction includes two parts which are detachably connected to one another. Applicant should note that as broadly and reasonably defined any of the parts may be detached from one another (i.e. using a cutting torch, grinder, metal saw, etc.). Additionally, elements 40 and 52 may be clearly separated from one another.

With respect to claim 31, Chou discloses that the top portion and bottom portion of the rod (element 56) forms a bolt (note bolt head and threaded portion nut at bottom, shown in figure 2), and as shown the two parts are connected to one another by said bolt which may be broadly defined as a separating bolt, since the nut may be taken off and the bolt separated from the rest of the apparatus.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 22 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chou et al. (U.S. 6,029,765) in view of Duval et al. (U.S. Pub. App. 2002/0020999 A1).

With respect to claims 22 and 37, Chou discloses all of the elements of the claims except for the use of a means to initiate the transition pyrotechnically. Nevertheless, it is old and well known to use a pyrotechnic means to release an element. Duval teaches the use of pyrotechnic actuator system for releasing a steering column component (a coil, element 21) as well as a pyrotechnically operated actuator system (Figs. 5-6, Elements 34 and 46, which release coil 21) for disconnecting said coil (element 21) and allowing movement of the coil relative to the actuator, in the event of a vehicle impact and further allows control of the actuator to be accomplished based on a variety of factors / parameters including vehicle speed (Pg. 1, Para. 0003 and 0011).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Chou, so as to utilize a system wherein the engine through rod (element 56 of Chou) is releasably attached to the slot using a pyrotechnic actuator taught by Duval, instead of the slot with protuberances disclosed by Chou, wherein said pyrotechnic actuator releases the engine / rod, in view of the teachings of Duval.

Use of the system taught by Duval in place of the deformable protuberances of Chou would be desirable based on the desire of lessening manufacturing costs and the desirable result of having a smaller parts inventory, since the ability to use actuation

parameters would allow the system to be used on a wide variety of vehicle in a model lineup due to the fact that parameters could easily be optimized for vehicles of many different vehicle types by simply programming said external parameters. Thus, one could easily set actuation parameters for use in specific vehicles based on the ability of a vehicle manufacturer to factor in a new vehicle's respective frame sizes as well as various bumpers and engine compartment sizes, and using these factors, simply adapt the system to a new vehicle, through programming via a computer. Such a modification would be advantageous in that the information needed for these factors could easily be determined using either finite-element software and/or early crash testing and would also be advantageous in that it would reduce the step of having to add a manufacturing step of adding a slot with protuberances to every vehicle frame made. Moreover, it would be desirable to not have to rely on a slot with protuberances for the reason that inconsistencies with the casting / forming process of the vehicle frame could lead to some protuberances being more or less likely to perform consistently; thus, causing potential safety concerns if a protuberance was weaker or stronger than anticipated. In contrast to this pyrotechnic actuators are known to provide very reliable results and are widely used in vehicle design in situations where failure would be highly undesirable, such as in airbag deployment, and actuation of seat belt pretensioners, as well as in collapsible steering columns.

Additionally, the above modification is obvious since both references teach means for allowing a component to be released if a given force is exceeded (wherein in Chou it is based on the ability to deform metal and in Duval it is based on among other

things vehicle speed), it would have been obvious to one of ordinary skill in the art at the time the invention to have substituted one known means for releasing a component for the other to achieve the predictable result of predictably releasing the rod when it is desirable to do so in the event of a vehicle impact, since it has been held that the simple substitution of one known, equivalent element for another to obtain a result that would have been predictable to one of ordinary skill at the time of invention is obvious.

15. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chou et al. (U.S. 6,029,765) in view of Tsuji et al. (U.S. 5,477,938). Chou discloses all of the limitations of claim 24, except for the element being arranged in front of the engine.

Tsuji teaches the use of an engine having an engine mount arranged in front of the engine (Fig. 12, Element 11f). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Chou, so as to utilize the force-transmission element being arranged in front of the engine in the direction of introduction of the force, based on the fact that the device of Chou is fastened to the engine mounts and Tsuji teaches engine mounts formed in front of the frame.

Accordingly, the choice to modify Chou, such that the element is arranged in front of the engine in the direction of introduction of the force would result in a predictable variation that one of ordinary skill in the art would recognize as no more than the predictable use of prior art elements according to their established functions, since the modification is no more than the combination of prior art elements (the mounting system of Chou adapted to an engine having a mount in front of the engine) according to known methods to yield predictable results.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is directed to the references cited in the PTO-892. Also, Tsuchida et al. (U.S. 5,476,151) may be of particular interest in that during an impact the level of the engine is raised vertically (compare figures 1 and 2).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Rocca whose telephone number is 571-272-5191. The examiner can normally be reached on 8:30 AM to 5:00 PM, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Ellis can be reached on 571-272-6914. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christopher P Ellis/

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Supervisory Patent Examiner, Art
Unit 3618

/Joseph Rocca/
Examiner, Art Unit 3616